

X62T-VR Tank Thermometer Interface

Product Sheet

Drop-in replacement for ENRAF 762 VITO MRT Interface*

Connects to all ENRAF gauges with VITO MRT compatible option boards

Based on Exalon Delft proven X62T-HART Universal Tank Thermometer Interface

No maintenance required

Firmware upgradeable to X62T-HART protects your investment

Connect

The X62T-VR Tank Thermometer Interface is a special version of the X62T-HART. The main difference is that a subset of the HART communication has been enabled in favor of the Honeywell-Enraf 762 VITO MRT manufacturer specific commands. This way you can replace a defective 762 VITO MRT by a X62T-VR with minimal effort.

The X62T-VR has 18 combined force/sense inputs re-configured to measure:

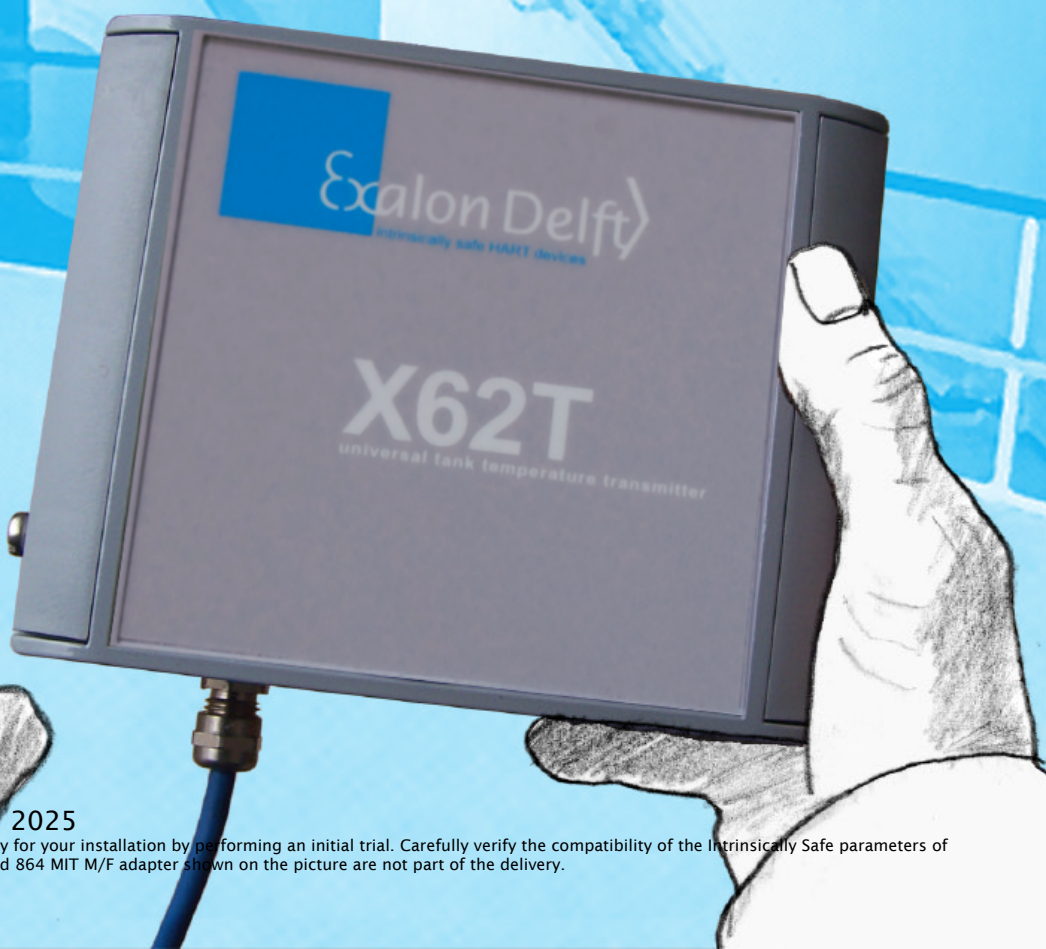
- Enraf® MRT with or without Spot
- Enraf® 361 MPT
- 2-3 separate elements RTD probe
- Other probes having RTD elements in 3-wire Individual Sense or 4-Wire configurations

Protect your investment

Compatibility to your future level gauge or host is maintained since the X62T-VR can be upgraded to X62T-HART to support the open HART® protocol or downgraded to X62T-MIT or X62T-MIR to support Enraf® 854 ATG/XTG as well as 873- and 97x SmartRadar and 990 SmartRadar FlexLine gauges.

Application

- Replace defective 762 VITO MRT units with the cost effective X62T-VR without modifications to the level gauge.
- Cost effective spare part



Measurement and Installation

Temperature

Measuring principle	The X62 temperature inputs consists of a large multiplexer, a stable current source, A/D converter, and precision reference and test sources for voltage and resistance. The configuration of multiplexers and measurement sequences is completely handled by the X62 and depends only on the configured probe type.
MRT/MPT/RTD probe type and 3- or 4-wire resistance	This setup allows for 3- and 4-wire measurements of multiple resistors, which may or may not share a common wire. The current is forced through the selected terminal to the RTD and the resulting input voltage is measured through the selected sense terminal. The same current is then internally directed through a high precision resistor and its voltage is measured. Following that another measurement is performed to eliminate the A/D conversion chain's offset.
Number of elements	The X62T-VR supports MRT probes with up to 13 temperature elements. For MPT probes the number of supported elements ranges from 1 to 14. For RTD probes the number of supported elements ranges from 1 to 3. For other RTD probes with 3-Wire Individual Sense configurations the number of supported elements ranges from 1 to 9. For other RTD probes with 4-Wire configurations the number of supported elements ranges from 1 to 6.
762 VITO MRT emulation	The X62T-VR measures and calculates spot temperature independently of the host. To enable 762 VITO MRT emulation these spot temperature are then converted back into the 762 VITO MRT manufacturer specific commands that allow the gauge to calculate the spot temperatures as well as Product and Vapor Temperature. It can be connected to Honeywell Enraf 854 servo, 97x SmartRadar and 877 FDI gauges.

Water bottom level

Capacitance measurement	Contact Exalon Delft or its representative if you require support for capacitive water bottom measurement.
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Installation features

Galvanic separation	All transmitter inputs are galvanically separated from the gauge HART connection.
Lightning protection	The sensors connected to the X62T-VR may be installed into Zone 0. When the wires connecting the X62T-VR and the boundary of Zone 0 are shorter than 1 m, no additional surge protection is required. An internal 90V surge protection device connected to the local structure protects the HART host connection wires. When testing the isolation from ground of the gauge HART wires using voltages above 70 V, it will be necessary to temporarily disconnect the surge protection device's ground wire.
Molded module	The internal X62U module is molded in PU resin to protect the circuitry from corrosion so that it's lifetime is maximized. Naturally as for all transmitters regardless of Ingress Protection rating in high humidity environments some build-up of water inside the enclosure may occur over time. If this is the case regular inspection and if necessary draining is recommended for error free operation.
Entries	The entries are compatible to those of the VITO MRT (PG16), allowing you to reuse the existing glands and Enraf G1/2 M/F probe adapter. When replacing a VITO MRT unit by a X62T-VR carefully check if seals or O-rings need to be replaced. When replacing a 762 VITO MRT an Exalon Delft G1/2 M/F adapter can be ordered to connect the probe to the X62T-VR enclosure.
Enclosure	The enclosure of the X62T-VR is IP65 depending on proper installation.

Mechanical

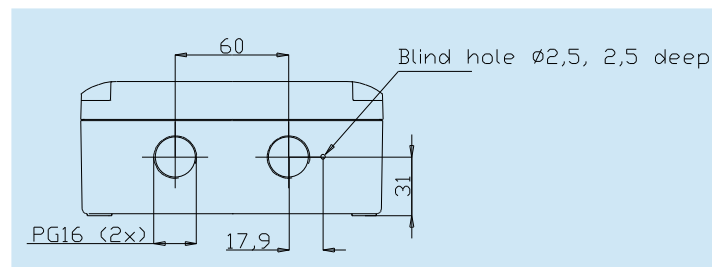
Cable entry	Suitable for PG16 glands and adapters (not part of delivery)
Thermometer connection	G1/2 suitable for connection to Enraf MRT/MPT or Exalon Delft M/F adapter (not part of delivery)
Dimensions (X62 enclosure)	160 x 130 x 70 mm (l x w x h) See ordering options below.

Environmental

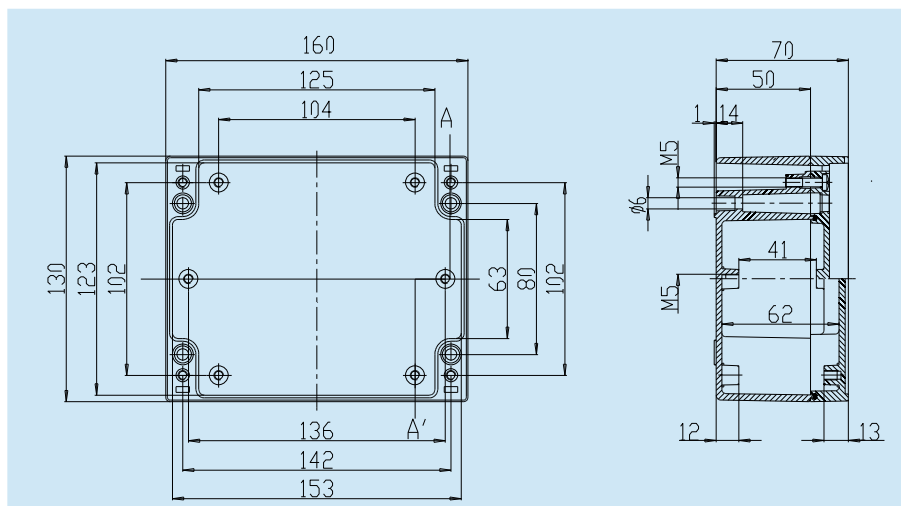
Operating temperature	-40 °C ... +60 °C
Ingres Protection	IP65 with proper installation
Loop voltage	12V ... 24V @ 4 mA 14V ... 24V @ 16 mA
Safety	II 2(1) G Ex ia IIB T4 according to ATEX for connection to an ATEX certified power supply with Ex d [ia] or [Ex ia] only
Input parameters	Supply/Output circuit: $U_i = 30V$, $I_i = 270\text{ mA}$, $P_i = 1.2W$, $C_i = 5nF$, $L_i = 0$ Sensor/Input circuit: $U_o = 5.9V$, $I_o = 62mA$, $P_o = 92mW$, $C_o = 900\mu F$, $L_o = 30mH$
Lightning protection	According to NEN-EN-IEC 60079-25
Galvanic separation	60V according to NEN-EN-IEC §6.3.3 and Table 5 Withstands 500 V isolation test.

Temperature (excluding sensor)

Range	-200 °C / +250 °C
Accuracy	$\pm 0.1\text{ °C}$ (typical, reference conditions)
Resolution	$\pm 0.05\text{ °C}$



X62T-VR/H Entries



Enclosure



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